

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for lock management, the method comprising the steps of:

a first requester transmitting to a lock management system a first request for a particular lock on a resource;

wherein said lock management system manages locks on resources that are may be granted to a plurality of processes to that can access said resource;

~~determining said first request cannot be honored because of a blocking condition;~~

~~in response to determining said first request cannot be honored:~~

~~creating first data that indicates the blocking condition; and~~

~~after creating said first data:~~

~~storing in a store, as a new item of data in the store, said first data, and~~

~~transmitting~~receiving a message from said lock management system~~a message that~~ indicates that said first request ~~to look~~for a particular lock on a resource is denied;

wherein a blocking condition caused the denial of said first requester~~receiving said~~ ~~message from said lock management system;~~request;

wherein said message includes ~~said first data;~~and

wherein said first data identifies another resource, wherein said lock management

system will not grant another lock for said another resource while said

blocking condition is in effect; and

based on said first data, said first requester ~~transmitting a second request for~~obtaining notification ~~that indicates~~of when said blocking condition should no longer cause denial of a request, wherein obtaining notification includes transmitting

a request for a lock on~~for~~ said another resource.

1 2. (Original) The method of claim 1, wherein no process of said plurality of processes
2 holds a lock issued by said lock management system for said resource.

1 3. (Currently Amended) The method of claim 1, wherein ~~the steps further include:~~
2 obtaining notification includes said first requester receiving said notification; and
3 the steps further include: in response to receiving said notification, said first
4 requester transmitting another request to said lock management system for
5 said particular lock on said resource.

1 4. (Original) The method of claim 3, wherein the step of said first requester transmitting
2 another request includes transmitting second data that indicates that said blocking
3 condition should no longer cause denial of a request for said lock of said resource.

1 5. (Original) The method of claim 4, wherein the steps further include said lock
2 management system processing said other request without denial based on said
3 second data.

1 6. (Canceled)

1 7. (Original) The method of claim 1, wherein:
2 said first requester is a process of said plurality of processes;
3 wherein said resource is a data block in a b-tree index; and
4 wherein a second process of said plurality of processes is performing a block split
5 operation on said data block.

1 8. (Withdrawn) A method of managing locks by a distributed lock management system,
2 the method comprising the steps of:
3 a first lock manager on a first node receiving a first request for a first lock on a
4 resource from a first requester;
5 wherein said distributed lock management system includes said first lock manager;

6 determining that said first request may not be granted because of a blocking
7 condition;
8 said first lock manager storing in a data structure first data that may be used by said
9 first requester to obtain notification that said blocking condition should no
10 longer cause denial of a request for a lock on said resource; and
11 said first lock manager transmitting to said first requester a first response that:
12 indicates that said first request is denied, and
13 includes a copy of said first data.

1 9. (Withdrawn) The method of claim 8, wherein the steps include:
2 receiving a message that indicates that said blocking condition should no longer cause
3 denial of a request for a lock on said resource; and
4 modifying said data structure to indicate that said blocking condition should no longer
5 cause denial of a request for a lock on said resource.

1 10. (Withdrawn) The method of claim 9, wherein the step of receiving said message
2 includes receiving said message from said first requester.

1 11. (Withdrawn) The method of claim 8, wherein:
2 the steps further include said first lock manager transmitting to another lock manager
3 of said distributed lock management system a message requesting said first
4 lock on said resource; and
5 wherein the step of determining is based on a second response received from said
6 other lock manager indicating that said first request cannot be granted;
7 wherein said second response includes a copy of said first data.

1 12. (Withdrawn) The method of claim 8, wherein the steps further include:

2 receiving a second request for another lock on said resource;
3 determining, based on said first data, that said second request may not be granted;
4 said first lock manager transmitting to said second requester another response that:
5 indicates that said second request is not granted, and
6 includes a copy of said first data.

1 13. (Withdrawn) The method of claim 12, wherein:
2 said first lock manager is a master of said resource; and
3 wherein the step of receiving said second request includes receiving said second
4 request from another lock manager.

1 14. (Withdrawn) The method of claim 12, wherein:
2 said first lock manager and a process are on a node, wherein said process is different
3 than said first requester; and
4 the step of receiving said second request includes receiving said second request from
5 said process.

1 15. (Withdrawn) The method of claim 8, wherein:
2 said distributed lock management system includes a master for said resource; and
3 wherein no lock is currently granted for said resource by said master.

1 16. (Currently Amended) A computer-readable medium carrying one or more sequences
2 of instructions for lock management, wherein execution of the one or more sequences
3 of instructions by one or more processors causes the one or more processors to
4 perform the steps of:
5 a first requester transmitting to a lock management system a first request for a
6 particular lock on a resource;

wherein said lock management system manages locks on resources that ~~are~~may be
 granted to a plurality of processes ~~to~~that can access said resource;
~~determining said first request cannot be honored because of a blocking condition;~~
~~in response to determining said first request cannot be honored;~~
 creating first data that indicates the blocking condition; and
 after creating said first data:
 storing in a store, as a new item of data in the store, said first data, and
~~transmitting~~receiving a message from said lock management system ~~a message that~~
 indicates that said first request to lock a resource is denied;

~~wherein a blocking condition caused the denial of said first requester receiving said~~
~~message from said lock management system;~~request;
 wherein said message includes said first data;

~~wherein said first data indicates another resource for which another lock may be~~
~~requested, wherein said lock management system does not grant said lock~~
~~while said block condition is in effect; and~~
 based on said first data, said first requester transmitting a second request for a
 notification that ~~indicates when~~ said blocking condition should no longer
 cause denial of a request for a lock on said resource.

17. (Original) The computer-readable medium of claim 16, wherein no process of said plurality of processes holds a lock issued by said lock management system for said resource.

18. (Currently Amended) The computer-readable medium of claim 16, wherein ~~the steps~~ further include:

obtaining notification includes said first requester receiving said notification; and

4 the steps further include: in response to receiving said notification, said first
5 requester transmitting another request to said lock management system for
6 said particular lock on said resource.
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1 19. (Original) The computer-readable medium of claim 18, wherein the step of said first
2 requester transmitting another request includes transmitting second data that indicates
3 that said blocking condition should no longer cause denial of a request for said lock
4 of said resource.

1 20. (Original) The computer-readable medium of claim 19, wherein the steps further
2 include said lock management system processing said other request without denial
3 based on said second data.

1 21. (Canceled)

1 22. (Original) The computer-readable medium of claim 16, wherein:
2 said first requester is a process of said plurality of processes;
3 wherein said resource is a data block in a b-tree index; and
4 wherein a second process of said plurality of processes is performing a block split
5 operation on said data block.

1 23. (Withdrawn) A computer-readable medium carrying one or more sequences of
2 instructions for managing locks by a distributed lock management system, wherein
3 execution of the one or more sequences of instructions by one or more processors
4 causes the one or more processors to perform the steps of:
5 a first lock manager on a first node receiving a first request for a first lock on a
6 resource from a first requester;

7 wherein said distributed lock management system includes said first lock manager;
8 determining that said first request may not be granted because of a blocking
9 condition;
10 said first lock manager storing in a data structure first data that may be used by said
11 first requester to obtain notification that said blocking condition should no
12 longer cause denial of a request for a lock on said resource; and
13 said first lock manager transmitting to said first requester a first response that:
14 indicates that said first request is denied, and
15 includes a copy of said first data.

1 24. (Withdrawn) The computer-readable medium of claim 23, wherein the steps include:
2 receiving a message that indicates that said blocking condition should no longer cause
3 denial of a request for a lock on said resource; and
4 modifying said data structure to indicate that said blocking condition should no longer
5 cause denial of a request for a lock on said resource.

1 25. (Withdrawn) The computer-readable medium of claim 24, wherein the step of
2 receiving said message includes receiving said message from said first requester.

1 26. (Withdrawn) The computer-readable medium of claim 23, wherein:
2 the steps further include said first lock manager transmitting to another lock manager
3 of said distributed lock management system a message requesting said first
4 lock on said resource; and
5 wherein the step of determining is based on a second response received from said
6 other lock manager indicating that said first request cannot be granted;
7 wherein said second response includes a copy of said first data.

- 1 27. (Withdrawn) The computer-readable medium of claim 23, wherein the steps further
2 include:
3 receiving a second request for another lock on said resource;
4 determining, based on said first data, that said second request may not be granted;
5 said first lock manager transmitting to said second requester another response that:
6 indicates that said second request is not granted, and
7 includes a copy of said first data.
- 1 28. (Withdrawn) The computer-readable medium of claim 27, wherein:
2 said first lock manager is a master of said resource; and
3 wherein the step of receiving said second request includes receiving said second
4 request from another lock manager.
- 1 29. (Withdrawn) The computer-readable medium of claim 27, wherein:
2 said first lock manager and a process are on a node, wherein said process is different
3 than said first requester; and
4 the step of receiving said second request includes receiving said second request from
5 said process.
- 1 30. (Withdrawn) The computer-readable medium of claim 23, wherein:
2 said distributed lock management system includes a master for said resource; and
3 wherein no lock is currently granted for said resource by said master.